IN THE CLAIMS

Amended claims follow:

1. (Currently Amended) A method for calculating CRC values in a data transmission system having a data bus wherein the number of data blocks containing valid data on said data bus is variable, said number of data blocks comprising a group, and at least one of said groups comprising a data segment, said method comprising the steps of:

a) determining [[the]]a number of data blocks on [[said]]a data bus;

b) receiving a data segment using an Internet small computer system interface (iSCSI) protocol;

[[b]]c) calculating a CRC value in accordance with a predetermined algorithm that accommodates said data segment received using said iSCSI protocol, as determined by said number of data blocks, utilizing a transport offload engine (TOE) including a physical data link that provides a physical connection to the Internet, a network stack in communication with said physical data link utilizing a TCP/IP protocol, a storage protocol services processor in communication with said network stack for exchanging data with said network stack, processing requests from a storage application, and encapsulating or decoding packets as requested by said storage application in accordance with said iSCSI protocol; and

[[c]]d) appending said CRC value to said data segment.

2. (Currently Amended) The method of claim 1, further comprising thewherein said steps of:

a) simultaneously calculating a CRC value for each possibility of said plurality of data blocks containing valid data; and

b) selecting a correct calculated CRC value based on [[the]]said number of said data blocks.

3. (Currently Amended) The method of claim 1, wherein said calculated CRC values are variable between a value based on a data block single block up to a value based on a group of said data blocks.

4. (Currently Amended) The method of claim 1, wherein said data segment includes at least one data block.

5. (Currently Amended) A [[S]]system for generating CRC values in a Data Transmission System having a data bus adapted for handling a plurality of data blocks in parallel, said plurality of data blocks comprising a data segment, said [[S]]system comprising:

a) a memory for storing data blocks, said memory adapted to output a plurality of data blocks simultaneously;

b) a data bus, coupled to said memory, said data bus providing a data path wide enough to accommodate said plurality of data blocks;

c) a plurality of CRC cores coupled to said data bus; and

d) a first multiplexer coupled to said CRC cores for selecting the output of one of said CRC cores based on [[the]]a number of data blocks output on said data bus;

wherein a data segment is received using an Internet small computer system interface (iSCSI) protocol;

wherein CRC values are calculated in accordance with a predetermined algorithm that accommodates said data segment received using said iSCSI protocol, utilizing a transport offload engine (TOE) including a physical data link that provides a physical connection to the Internet, a network stack in communication with said physical data link utilizing a TCP/IP protocol, a storage protocol services processor in communication with said network stack for exchanging data with said network stack, processing requests from a storage application, and encapsulating or decoding packets as requested by said storage application in accordance with said iSCSI protocol.

6. (Currently Amended) The [[S]]system of claim 5, wherein said plurality of CRC cores includes a CRC core for calculating at least one CRC value for every combination of data blocks on said [[D]]data [[B]]bus.

7. (Currently Amended) The [[S]]system of claim 5, further including a second multiplexer coupled to the output of said first multiplexer for initializing said CRC cores with a seed value for use in calculating said at least one CRC value.

8. (Currently Amended) The [[S]]system of claim 7, where said at least one CRC value ~~is calculated according to a predetermined algorithm and~~ is based on said seed value and [[the]]said data in said data blocks.

9. (Currently Amended) The [[S]]system of claim 5, further including means for appending said at least one CRC value to said data segment.

10. (Currently Amended) The [[S]]system of claim 5, wherein said at least one CRC value has the same granularity as said data blocks.

11. (Currently Amended) The [[S]]system of claim 5, wherein said memory includes a non-volatile data storage device.

12. (Currently Amended) A circuit for calculating CRC values comprising:

a) a memory for storing data blocks, said memory including a plurality of outputs for simultaneously outputting data segments having a plurality of data blocks;

b) a data bus, coupled to said memory, said data bus having a data path for each of said data blocks;

c) a plurality of registers coupled to said data bus, said registers for temporarily storing data blocks within a data segment output from said memory, wherein said registers are adapted for storing any combination of data blocks within said data segment;

d) a plurality of CRC cores coupled to each of said respective registers, said CRC cores for calculating CRC values for [[the]]said data blocks stored in each of said registers; and

e) a multiplexer for selecting [[the]]a CRC value calculated by one of said CRC cores, based on which of said plurality of registers contain valid data;

wherein said data segment is received using an Internet small computer system interface (iSCSI) protocol;

wherein a plurality of CRC values are calculated in accordance with a predetermined algorithm that accommodates said data segment received using said iSCSI protocol, utilizing a transport offload engine (TOE) including a physical data link that provides a physical connection to the Internet, a network stack in communication with said physical data link utilizing a TCP/IP protocol, a storage protocol services processor in communication with said network stack for exchanging data with said network stack, processing requests from a storage application, and encapsulating or decoding packets as requested by said storage application in accordance with said iSCSI protocol.

13. (Currently Amended) A method for calculating cyclical redundancy check (CRC) values, comprising:

receiving data using an Internet small computer system interface (iSCSI) protocol;

calculating a CRC value in accordance with a predetermined algorithm that accommodates said data received using said iSCSI protocol, utilizing a transport offload engine (TOE) including a physical data link that provides a physical connection to the Internet, a network stack in communication with said physical data link utilizing a TCP/IP protocol, a storage protocol services processor in communication with said network stack for exchanging data with said network stack, processing requests from a storage application, and encapsulating or decoding packets as requested by said storage application in accordance with said iSCSI protocol; and

appending said CRC value to said data.